

What is claimed is:

1. A class D amplifier comprising:

a modulating circuit which modulates an input signal to a pulse signal;

5 a first output transistor, a current path of which is connected between a positive power supply and an output terminal;

a second output transistor, a current path of which is connected between a negative power supply and the output terminal; and

10 a drive controlling circuit which complementarily drive the first and second output transistors based on the pulse signal from the modulating circuit, the drive controlling circuit including:

15 a signal generating circuit which generates first complementary signals including positive-phase and negative-phase signals with respect to the pulse signal;

a signal converting circuit which converts the first complementary signals to second complementary signals;

20 having a voltage component based on the negative power supply;

a current driving circuit which, in response to the second complementary signals, outputs third complementary

signals having a current component flowing toward the negative power supply;

a first driving circuit which, in response to the third complementary signals, drives the first output transistor; and
a second driving circuit which, in response to the second complementary signals, drives the second output transistor.

2. The class D amplifier according to claim 1, wherein the signal converting circuit includes:
first and second bipolar transistors, bases of which are commonly biased to a ground potential, and emitters of which are connected to outputs of the signal generating circuit from which the first complementary signals are output via first and second resistors, respectively;
third and fourth resistors connected between collectors of the first and second bipolar transistors and the negative power supply, respectively.

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3. The class D amplifier according to claim 2, wherein the current driving circuit includes:

third and fourth bipolar transistors, emitters of which

are connected to the third and fourth resistors,
respectively, collectors of which are connected to inputs of
the first driving circuit, respectively, and bases of which
are commonly biased to a predetermined potential based on the
5 negative power supply.

4... The class D amplifier according to claim 3, wherein
values of first to fourth resistors are set so that emitter
voltages of the third and fourth bipolar transistors are
10 lower than the predetermined potential based on the negative
power supply by a base-collector voltage.